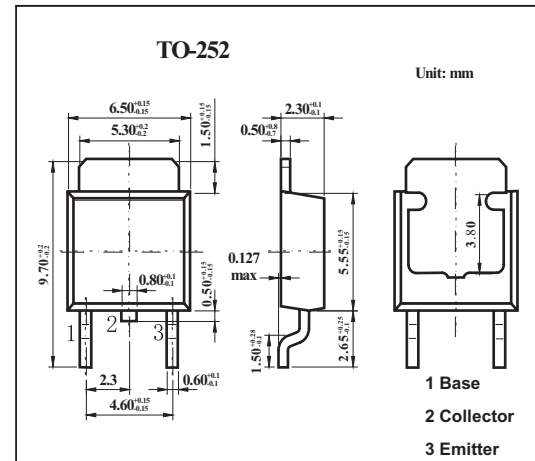


## Silicon NPN Triple Diffusion Planar Type

## 2SD2453

## ■ Features

- High forward current transfer ratio hFE.
- Low collector-emitter saturation voltage  $V_{CE(sat)}$ .

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

| Parameter                   | Symbol    | Rating                   | Unit             |   |
|-----------------------------|-----------|--------------------------|------------------|---|
| Collector-base voltage      | $V_{CBO}$ | 80                       | V                |   |
| Collector-emitter voltage   | $V_{CEO}$ | 60                       | V                |   |
| Emitter-base voltage        | $V_{EBO}$ | 6                        | V                |   |
| Collector current           | $I_C$     | 2                        | A                |   |
| Peak collector current      | $I_{CP}$  | 4                        | A                |   |
| Base current                | $I_B$     | 1                        | A                |   |
| Collector power dissipation | $P_C$     | $T_a = 25^\circ\text{C}$ | 1                | W |
|                             |           | $T_c = 25^\circ\text{C}$ | 10               | W |
| Junction temperature        | $T_j$     | 150                      | $^\circ\text{C}$ |   |
| Storage temperature         | $T_{stg}$ | -55 to +150              | $^\circ\text{C}$ |   |

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

| Parameter                            | Symbol        | Testconditions   | Min | Typ | Max  | Unit          |
|--------------------------------------|---------------|--|-----|-----|------|---------------|
| Collector-emitter voltage            | $V_{CEO}$     | $I_C = 25\text{mA}, I_B = 0$                               | 60  |     |      | V             |
| Collector-base cutoff current        | $I_{CBO}$     | $V_{CB} = 80\text{V}, I_E = 0$                             |     |     | 100  | $\mu\text{A}$ |
| Collector cutoff current             | $I_{CEO}$     | $V_{CE} = 40\text{V}, I_B = 0$                             |     |     | 100  | $\mu\text{A}$ |
| Emitter-base cutoff current          | $I_{EBO}$     | $V_{EB} = 6\text{V}, I_C = 0$                              |     |     | 100  | $\mu\text{A}$ |
| Forward current transfer ratio       | hFE           | $V_{CE} = 4\text{V}, I_C = 0.5\text{A}$                    | 500 |     | 2500 |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 2\text{A}, I_B = 0.05\text{A}$                      |     |     | 1    | V             |
| Transition frequency                 | $f_T$         | $V_{CE} = 12\text{V}, I_C = 0.2\text{A}, f = 10\text{MHz}$ |     | 50  |      | MHz           |

## ■ hFE Classification

| Rank | Q        | R        | S         |
|------|----------|----------|-----------|
| hFE  | 500~1000 | 800~1500 | 1200~2500 |